



CLAIMS PENDING IN SERIAL NO. 09/928,237

(claims 123-168 are withdrawn in response to restriction requirement)

31. A fiber optic spectrometer, comprising:
- an input port;
 - a detector; and
 - a wavelength dispersive element;
- said wavelength dispersive element configured to position an optic beam from said input port onto said detector.
32. A spectrometer as recited in claim 31, wherein said optic beam comprises a wavelength component of an optic input signal.
33. A spectrometer as recited in claim 31, wherein said input port comprises an optic fiber.
34. A spectrometer as recited in claim 33, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.
35. A spectrometer as recited in claim 34, wherein said optic beam comprises a wavelength component of said optic input signal.

36. A spectrometer as recited in claim 31, further comprising a lens associated with said wavelength dispersive element.

37. A spectrometer as recited in claim 36, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said input port onto said detector.

38. A spectrometer as recited in claim 31, wherein said detector comprises an array of detector elements.

39. A spectrometer as recited in claim 31, wherein said detector comprises a single detector element.

40. A fiber optic spectrometer, comprising:
an input optic fiber;
a detector; and
a wavelength dispersive element;
said wavelength dispersive element configured to position an optic beam from said input fiber onto said detector.

41. A spectrometer as recited in claim 40, wherein said optic beam comprises a wavelength component of an optic input signal.

42. A spectrometer as recited in claim 40, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

43. A spectrometer as recited in claim 42, wherein said optic beam comprises a wavelength component of said optic input signal.

44. A spectrometer as recited in claim 40, further comprising a lens associated with said wavelength dispersive element.

45. A spectrometer as recited in claim 44, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said input port onto said detector.

46. A spectrometer as recited in claim 40, wherein said detector comprises an array of detector elements.

47. A spectrometer as recited in claim 40, wherein said detector comprises a single detector element.

48. A fiber optic spectrometer, comprising:
a fiber optic input path;
a detector; and
a wavelength dispersive element;

said wavelength dispersive element configured to position an optic beam from said fiber optic input path onto said detector.

49. A spectrometer as recited in claim 48, wherein said optic beam comprises a wavelength component of an optic input signal.

50. A spectrometer as recited in claim 48, wherein said fiber optic input path comprises an optic fiber.

51. A spectrometer as recited in claim 50, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

52. A spectrometer as recited in claim 51, wherein said optic beam comprises a wavelength component of said optic input signal.

53. A spectrometer as recited in claim 48, further comprising a lens associated with said wavelength dispersive element.

54. A spectrometer as recited in claim 53, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said input port onto said detector.

55. A spectrometer as recited in claim 48, wherein said detector comprises an array of detector elements.

56. A spectrometer as recited in claim 48, wherein said detector comprises a single detector element.

57. A fiber optic spectrometer, comprising:
an input port;
a detector;
a wavelength dispersive element; and
a lens associated with said wavelength dispersive element;
said wavelength dispersive element and said lens configured to position an optic beam from said input port onto said detector.

58. A spectrometer as recited in claim 57, wherein said optic beam comprises a wavelength component of an optic input signal.

59. A spectrometer as recited in claim 57, wherein said input port comprises an optic fiber.

60. A spectrometer as recited in claim 59, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

61. A spectrometer as recited in claim 60, wherein said optic beam comprises a wavelength component of said optic input signal.

62. A spectrometer as recited in claim 57, wherein said detector comprises an array of detector elements.

63. A spectrometer as recited in claim 57, wherein said detector comprises a single detector element.

64. A fiber optic spectrometer, comprising:
an input optic fiber;
a detector;
a wavelength dispersive element; and
a lens associated with said wavelength dispersive element;
said wavelength dispersive element and said lens configured to position an optic beam from said input fiber onto said detector.

65. A spectrometer as recited in claim 64, wherein said optic beam comprises a wavelength component of an optic input signal.

66. A spectrometer as recited in claim 64, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

67. A spectrometer as recited in claim 66, wherein said optic beam comprises a wavelength component of said optic input signal.

68. A spectrometer as recited in claim 64, wherein said detector comprises an array of detector elements.

69. A spectrometer as recited in claim 64, wherein said detector comprises a single detector element.

70. A fiber optic spectrometer, comprising:
a fiber optic input path;
a detector;
a wavelength dispersive element; and
a lens associated with said wavelength dispersive element;
said wavelength dispersive element and said lens configured to position an optic beam from said fiber optic input path onto said detector.

71. A spectrometer as recited in claim 70, wherein said optic beam comprises a wavelength component of an optic input signal.

72. A spectrometer as recited in claim 70, wherein said fiber optic input path comprises an optic fiber.

73. A spectrometer as recited in claim 72, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

74. A spectrometer as recited in claim 73, wherein said optic beam comprises a wavelength component of said optic input signal.

75. A spectrometer as recited in claim 70, wherein said detector comprises an array of detector elements.

76. A spectrometer as recited in claim 70, wherein said detector comprises a single detector element.

77. A fiber optic spectrometer, comprising:
an input port;
a detector;
an array of actuated mirrors;
said array of actuated mirrors configured for switching an optic beam from said input port to said detector; and
a wavelength dispersive element;
said wavelength dispersive element configured to position said optic beam from said input port onto said array of actuated mirrors.

78. A spectrometer as recited in claim 77, wherein said optic beam comprises a wavelength component of an optic input signal.

79. A spectrometer as recited in claim 77, wherein said input port comprises an optic fiber.

80. A spectrometer as recited in claim 79, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

81. A spectrometer as recited in claim 80, wherein said optic beam comprises a wavelength component of said optic input signal.

82. A spectrometer as recited in claim 77, further comprising a lens associated with said wavelength dispersive element.

83. A spectrometer as recited in claim 82, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said input port onto said array of actuated mirrors.

84. A spectrometer as recited in claim 77, wherein said detector comprises an array of detector elements.

85. A spectrometer as recited in claim 77, wherein said detector comprises a single detector element.

86. A fiber optic spectrometer, comprising:
an input optic fiber;
a detector;
an array of actuated mirrors;
said array of actuated mirrors configured for switching an optic beam from said input port to said detector;
a wavelength dispersive element;
said wavelength dispersive element configured to position said optic beam from said input optic fiber onto said array of actuated mirrors.

87. A spectrometer as recited in claim 86, wherein said optic beam comprises a wavelength component of an optic input signal.

88. A spectrometer as recited in claim 86, wherein said input optic fiber carries a plurality of wavelength components of an optic input signal.

89. A spectrometer as recited in claim 88, wherein said optic beam comprises a wavelength component of said optic input signal.

90. A spectrometer as recited in claim 86, further comprising a lens associated with said wavelength dispersive element.

91. A spectrometer as recited in claim 90, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said input optic fiber onto said array of actuated mirrors.

92. A spectrometer as recited in claim 86, wherein said detector comprises an array of detector elements.

93. A spectrometer as recited in claim 86, wherein said detector comprises a single detector element.

94. A fiber optic spectrometer, comprising:
a fiber optic input path;
a detector;
an array of actuated mirrors;
said array of actuated mirrors configured for switching an optic beam from said fiber optic input path to said detector;
a wavelength dispersive element;
said wavelength dispersive element configured to position said optic beam from said fiber optic input path onto said array of actuated mirrors.

95. A spectrometer as recited in claim 94, wherein said optic beam comprises a wavelength component of an optic input signal.

96. A spectrometer as recited in claim 94, wherein said fiber optic input path comprises an optic fiber.

97. A spectrometer as recited in claim 96, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

98. A spectrometer as recited in claim 97, wherein said optic beam comprises a wavelength component of said optic input signal.

99. A spectrometer as recited in claim 94, further comprising a lens associated with said wavelength dispersive element.

100. A spectrometer as recited in claim 99, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said fiber optic input path onto said array of actuated mirrors.

101. A spectrometer as recited in claim 94, wherein said detector comprises an array of detector elements.

102. A spectrometer as recited in claim 94, wherein said detector comprises a single detector element.

103. A fiber optic spectrometer, comprising:
an input port;
a detector;
an array of actuated mirrors;
said array of actuated mirrors configured for switching an optic beam from said input port to said detector;
a wavelength dispersive element; and
a lens associated with said wavelength dispersive element;
said wavelength dispersive element and said lens configured to position said optic beam from said input port onto said array of actuated mirrors.

104. A spectrometer as recited in claim 103, wherein said optic beam comprises a wavelength component of an optic input signal.

105. A spectrometer as recited in claim 103, wherein said input port comprises an optic fiber.

106. A spectrometer as recited in claim 105, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

107. A spectrometer as recited in claim 106, wherein said optic beam comprises a wavelength component of said optic input signal.

108. A spectrometer as recited in claim 103, wherein said detector comprises an array of detector elements.

109. A spectrometer as recited in claim 103, wherein said detector comprises a single detector element.

110. A fiber optic spectrometer, comprising:
an input optic fiber;
a detector;
an array of actuated mirrors;
said array of actuated mirrors configured for switching an optic beam from said input port to said detector;
a wavelength dispersive element; and
a lens associated with said wavelength dispersive element;
said wavelength dispersive element and lens configured to position said optic beam from said input optic fiber onto said array of actuated mirrors.

111. A spectrometer as recited in claim 110, wherein said optic beam comprises a wavelength component of an optic input signal.

112. A spectrometer as recited in claim 110, wherein said input optic fiber carries a plurality of wavelength components of an optic input signal.

113. A spectrometer as recited in claim 112, wherein said optic beam comprises a wavelength component of said optic input signal.

114. A spectrometer as recited in claim 110, wherein said detector comprises an array of detector elements.

115. A spectrometer as recited in claim 110, wherein said detector comprises a single detector element.

116. A fiber optic spectrometer, comprising:
a fiber optic input path;
a detector;
an array of actuated mirrors;
said array of actuated mirrors configured for switching an optic beam from said fiber optic input path to said detector;
a wavelength dispersive element; and
a lens associated with said wavelength dispersive element;
said wavelength dispersive element and said lens configured to position said optic beam from said fiber optic input path onto said array of actuated mirrors.

117. A spectrometer as recited in claim 116, wherein said optic beam comprises a wavelength component of an optic input signal.

118. A spectrometer as recited in claim 116, wherein said fiber optic input path comprises an optic fiber.

119. A spectrometer as recited in claim 118, wherein said optic fiber carries a plurality of wavelength components of an optic input signal.

120. A spectrometer as recited in claim 119, wherein said optic beam comprises a wavelength component of said optic input signal.

121. A spectrometer as recited in claim 116, wherein said detector comprises an array of detector elements.

122. A spectrometer as recited in claim 116, wherein said detector comprises a single detector element.

123. A fiber optic switch, comprising:
an input port;
an output port;
a detector;
an array of actuated mirrors; and

a wavelength dispersive element;

said wavelength dispersive element configured to position an optic beam from said input port onto said array of actuated mirrors;

said array of actuated mirrors configured for performing wavelength switching of said optic beam from said input port to said output port or to said detector.

124. A switch as recited in claim 123, wherein said optic beam comprises a wavelength component of an optic input signal.

125. A switch as recited in claim 123, wherein said input and output ports comprise optic fibers.

126. A switch as recited in claim 125, wherein said input optic fiber carries a plurality of wavelength components of an optic input signal.

127. A switch as recited in claim 126, wherein said optic beam comprises a wavelength component of said optic input signal.

128. A switch as recited in claim 123, further comprising a lens associated with said wavelength dispersive element.

129. A switch as recited in claim 128, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said input port onto said array of actuated mirrors.

130. A switch as recited in claim 123, wherein said detector comprises an array of detector elements.

131. A switch as recited in claim 123, wherein said detector comprises a single detector element.

132. A fiber optic switch, comprising:
an input optic fiber;
an output optic fiber;
a detector;
an array of actuated mirrors; and
a wavelength dispersive element;
said wavelength dispersive element configured to position an optic beam from said input port onto said array of actuated mirrors;
said array of actuated mirrors configured for performing wavelength switching of said optic beam from said input port to said output optic fiber or to said detector.

133. A switch as recited in claim 132, wherein said optic beam comprises a wavelength component of an optic input signal.

134. A switch as recited in claim 132, wherein said input optic fiber carries a plurality of wavelength components of an optic input signal.

135. A switch as recited in claim 134, wherein said optic beam comprises a wavelength component of said optic input signal.

136. A switch as recited in claim 132, further comprising a lens associated with said wavelength dispersive element.

137. A switch as recited in claim 136, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said input optic fiber onto said array of actuated mirrors.

138. A switch as recited in claim 132, wherein said detector comprises an array of detector elements.

139. A switch as recited in claim 132, wherein said detector comprises a single detector element.

140. A fiber optic switch, comprising:

a fiber optic input path;

a fiber optic output path;

a detector;

an array of actuated mirrors; and
a wavelength dispersive element;
said wavelength dispersive element configured to position an optic beam from
said fiber optic input path onto said array of actuated mirrors;
said array of actuated mirrors configured for performing wavelength switching of
said optic beam from said fiber optic input path to said fiber optic output path or to said
detector.

141. A switch as recited in claim 140, wherein said optic beam comprises a
wavelength component of an optic input signal.

142. A switch as recited in claim 140, wherein said fiber optic input and output
paths comprise optic fibers.

143. A switch as recited in claim 142, wherein said input optic fiber carries a
plurality of wavelength components of an optic input signal.

144. A switch as recited in claim 143, wherein said optic beam comprises a
wavelength component of said optic input signal.

145. A switch as recited in claim 140, further comprising a lens associated with
said wavelength dispersive element.

146. A switch as recited in claim 145, wherein said wavelength dispersive element and said lens are configured to position said optic beam from said fiber optic input path onto said array of actuated mirrors.

147. A switch as recited in claim 140, wherein said detector comprises an array of detector elements.

148. A switch as recited in claim 140, wherein said detector comprises a single detector element.

149. A fiber optic switch, comprising:

- an input port;
- an output port;
- a detector;
- an array of actuated mirrors;
- a wavelength dispersive element; and
- a lens associated with said wavelength dispersive element;

said wavelength dispersive element and said lens configured to position an optic beam from said input port onto said array of actuated mirrors;

said array of actuated mirrors configured for performing wavelength switching of said optic beam from said input port to said output port or to said detector.

150. A switch as recited in claim 149, wherein said optic beam comprises a wavelength component of an optic input signal.

151. A switch as recited in claim 149, wherein said input and output ports comprise optic fibers.

152. A switch as recited in claim 151, wherein said input optic fiber carries a plurality of wavelength components of an optic input signal.

153. A switch as recited in claim 152, wherein said optic beam comprises wavelength component of said optic input signal.

154. A switch as recited in claim 149, wherein said detector comprises an array of detector elements.

155. A switch as recited in claim 149, wherein said detector comprises a single detector element.

156. A fiber optic switch, comprising:

an input optic fiber;

an output optic fiber;

a detector;

an array of actuated mirrors;

a wavelength dispersive element; and
a lens associated with said wavelength dispersive element;
said wavelength dispersive element and said lens configured to position an optic beam from said input optic fiber onto said array of actuated mirrors;
said array of actuated mirrors configured for performing wavelength switching of said optic beam from said input optic fiber to said output optic fiber or to said detector.

157. A switch as recited in claim 156, wherein said optic beam comprises a wavelength component of an optic input signal.

158. A switch as recited in claim 156, wherein said input optic fiber carries a plurality of wavelength components of an optic input signal.

159. A switch as recited in claim 158, wherein said optic beam comprises a wavelength component of said optic input signal.

160. A switch as recited in claim 156, wherein said detector comprises an array of detector elements.

161. A switch as recited in claim 156, wherein said detector comprises a single detector element.

162. A fiber optic switch, comprising:

- a fiber optic input path;
- a fiber optic output path;
- a detector;
- an array of actuated mirrors;
- a wavelength dispersive element; and
- a lens associated with said wavelength dispersive element;

said wavelength dispersive element and said lens configured to position an optic beam from said fiber optic input path onto said array of actuated mirrors;

said array of actuated mirrors configured for performing wavelength switching of said optic beam from said fiber optic input path to said fiber optic output path or to said detector.

163. A switch as recited in claim 162, wherein said optic beam comprises a wavelength component of an optic input signal.

164. A switch as recited in claim 163, wherein said fiber optic input and output paths comprise optic fibers.

165. A switch as recited in claim 164, wherein said input optic fiber carries a plurality of wavelength components of an optic input signal.

166. A switch as recited in claim 165, wherein said optic beam comprises a wavelength component of said optic input signal.

167. A switch as recited in claim 162, wherein said detector comprises an array of detector elements.

168. A switch as recited in claim 162, wherein said detector comprises a single detector element.